

WHAT IS CLAIMED IS:

1. A network relay device which performs communication in order to relay from a first network to a second network comprising:

5       a first interface which is connected to a first network and receives contents information encrypted by key information;

          a second interface which is connected to a second network which is different from the first network and  
10       sends the contents information; and

          a notification section which detects whether or not the changed via the first interface, and which, if the key information is changed, notifies a key change notification signal to the second network via the  
15       second interface.

2. The network relay device according to claim 1, further comprising:

          a control section which, when receiving the key change notification signal from the notification  
20       section, controls to suspend sending of the contents information for a predetermined period of time, and then resume sending.

3. The network relay device according to claim 1, further comprising:

25       a control section which, when suspending receiving of the contents information and not receiving the key change notification signal, controls to send empty data

instead of the contents information to the second network, and to suspend sending of the contents information when receiving the key change notification signal.

5           4. The network relay device according to claim 1, further comprising:

          a control section which controls, when receiving the key change notification signal, controls to send the key change notification signal.

10           5. The network relay device according to claim 1, wherein the first interface and the second interface send/receive the contents information encrypted with the key information in accordance with DTCP (Digital Transmission Content Protection) standard.

15           6. The network relay device according to claim 1, wherein the notification section obtains the key information by using a command for inquiring the key information based on the DTCP standard, and determines whether or not the key information is changed by  
20           comparing the obtained key information with the prior key information.

          7. A communication device comprising:

          a communication section which performs a communication processing for contents information encrypted  
25           by key information with a communication device on a network via an interface connected to the network and other network relay device connected to the other

network; and

a control section which, when the communication section receives a key change notification signal from the network relay device via the interface, sends  
5 a signal to obtain new key information to the communication device on the other network, decrypts the contents information on a basis of the new key information, and outputs the decrypted information.

8. A network relay method performed by a network relay device having a first interface which is  
10 connected to a first network and receives contents information encrypted with key information and a second interface which is connected to a second network which is different from the first network and sends the  
15 contents information to a network relay device to be relayed, the method comprising the steps of:

inquiring whether or not the key information is changed via the first interface; and

receiving an answer signal to the inquiry, and if  
20 the key information is changed, notifying a key change notification signal to the second network via the second interface.

9. The network relay method according to claim 8, wherein when suspending receiving of the contents  
25 information and not receiving the key change notification signal, it is controlled so as to suspend sending of the contents information to the second network for

a predetermined period of time and then resume the sending.

10. The network relay method according to claim 8,  
wherein when suspending receiving of the contents  
5 information and not receiving the key change notification signal, controls to send empty data instead of the contents information to the second network, and to suspend sending of the contents information when receiving the key change notification signal.

10 11. The network relay method according to claim 8,  
wherein when receiving the key change notification signal, controls to send the key change notification signal.

12. The network relay method according to claim 8,  
15 wherein the first interface receives and the second interface sends the contents information encrypted with the key information based on DTCP standard.

13. The network relay method according to claim 8,  
wherein the key change notification signal obtains the  
20 key information by using a command to inquire the key information based on the DTCP standard and determines whether or not the key information is changed by comparing the obtained key information with the prior key information.